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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.         | CONFIRMATION NO. |
|--|-------------|----------------------|-----------------------------|------------------|
| 10/824,913   | 04/15/2004  | George Yaluris       | W-9634-01                   | 7336             |
| 30633  | 7590        | 10/02/2006           |                             |                  |
| W.R. GRACE & CO.-CONN.<br>7500 GRACE DRIVE<br>COLUMBIA, MD 21044 |             |                      | EXAMINER<br>SAMPLE, DAVID R |                  |
|  |             |                      | ART UNIT<br>1755            | PAPER NUMBER     |

DATE MAILED: 10/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                        |                     |
|------------------------------|------------------------|---------------------|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |
|                              | 10/824,913             | YALURIS ET AL.      |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |
|                              | David Sample           | 1755                |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 02 December 2002.  
 2a) This action is FINAL.                            2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-168 is/are pending in the application.  
 4a) Of the above claim(s) 1-54, 105-107, 126-152 and 168 is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 55-104, 108-125 and 153-167 is/are rejected.  
 7) Claim(s) 57 is/are objected to.  
 8) Claim(s) 1-168 are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO/SB/08)  
     Paper No(s)/Mail Date 20041202.

4) Interview Summary (PTO-413)  
     Paper No(s)/Mail Date. \_\_\_\_\_.  
 5) Notice of Informal Patent Application  
 6) Other: \_\_\_\_\_.

**DETAILED ACTION**

***Election/Restrictions***

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-54, 105-107, 126-152, and 168, drawn to a catalytic cracking process, classified in class 208, subclass 108.
- II. Claims 55-104, 108-125 and 153-167, drawn to a catalyst, classified in class 501, subclass 67.

The inventions are distinct, each from the other because of the following reasons:

Inventions II and I are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product. See MPEP § 806.05(h). In the instant case, the product as claimed can be used in a materially different process such as the reduction of NO<sub>x</sub> in the exhaust gas of an internal combustion engine.

Because these inventions are independent or distinct for the reasons given above and there would be a serious burden on the examiner if restriction is not required because the inventions have acquired a separate status in the art due to their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

During a telephone conversation with Beverly Artale on June 23, 2006 a provisional election was made with traverse to prosecute the invention of Group II, claims 55-104, 108-125 and 153-167. Affirmation of this election must be made by applicant in replying to this Office

action. Claims 1-54, 105-107, 126-152 and 168 withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

#### ***Claim Objections***

Claim 57 is objected to because of the following informalities:

In claim 57, line 2, “the total catalyst inventory” lacks literal antecedent basis.

Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 58-63, 74, 75, 80, 80 and 81 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 employs the word “composition” in two contexts: (1) the total FCC catalyst composition, and (2) the catalyst/additive composition. Claims 58-63, 74, 75, 80 and 81 refer to

“the composition” without making it clear whether “the composition” refers to the FCC catalyst composition or the catalyst/additive composition. Clarification and/or correction is required.

Claim 61 appears to encompass amounts of catalyst/additive zeolite that are outside the range referred to in claim 55. Claim 55 recites a lower limit for the catalyst/additive zeolite of 10 wt% whereas claim 61 refers to a lower limit of “about 10 wt%.” The “about” modifier opens the lower limit to amounts less than 10 wt% that are not encompassed by claim 55.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 55-104, 108-125 and 153-167 are rejected under 35 U.S.C. 102(e) as being anticipated by Kuvetta et al. (US 2003/166453 A).

Kuvetta et al. discloses a catalyst comprising a low silica zeolite, a high silica zeolite and silica alumina binder. See page 3, paragraphs [0042]-[0053]. The catalyst has a particle size in the range of 30-100  $\mu\text{m}$ . See paragraph [0066]. The low silica zeolite is preferably zeolite Y and corresponds to the “FCC cracking component” of the instant claims. See page 4, paragraph [0104]. The reference discloses various zeolites for use as the “high silica zeolite,” and many of the same species are listed in the present claims as the  $\text{NO}_x$  reduction zeolite. See page 4

paragraph [0087]. The alumina/silica binder is added in an amount of 1-15 wt% silica and 5-30 wt% alumina. See page 4, paragraphs [0045] and [0046].

The reference does not disclose that the high silica zeolite functions as a "NO<sub>x</sub> additive catalyst." However, many of the zeolites disclosed by Kuvetta et al. are the same as the presently claimed composition. Therefore, the stabilized high silica zeolite of the Kuvetta et al. is presumed to inherently possess the property of a NO<sub>x</sub> reduction.

As to claim 56, the preferred low silica zeolite of Kuvetta et al. is zeolite Y. See page 4 paragraph [0104].

The recitations of instant claim 57, 153 and 154 can be found in the reference at page 4, paragraph [0099].

As to claims 58-63, 110, 111, Kuvetta et al. discloses that the catalyst contains the high silica zeolite in an amount of 1-50 wt%. This range is deemed sufficiently specific to anticipate the ranges recited in claims 58-63.

The recitations of instant claims 70-73 can be found in the reference at page 5, paragraph [0110].

As to claims 74 and 75, the reference discloses employing 1-15 wt% silica and 5-30 wt% alumina as a binder. See page 4, paragraphs [0045] and [0046]. These amounts of binder are sufficiently specific to anticipate the ranges of 74 and 75.

The recitations of instant claims 76 and 161 can be found in the reference at page 3, paragraph [0053].

The recitations of instant claim 77 and 162 can be found in the reference at page 7, claim 12.

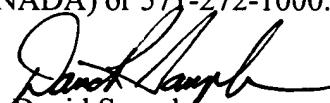
***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Sample whose telephone number is (571)272-1376. The examiner can normally be reached on Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on (572)272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



David Sample  
Primary Examiner  
Art Unit 1755